Abstract

A nanoscale grasping device comprising at least three electrostatically actuated grasping elements. The use of at least three elements, which together define a plane, allows an object to be grasped more accurately, more easily held, and more readily manipulated. The grasping elements preferably comprise conductive nanotubes which are grown at specific points on a substrate (e.g., directly on an electrode), using chemical vapor deposition ("CVD") techniques, thereby allowing the grasping device to be manufactured with greater control. Different types of electrostatic forces may be used to open or close the grasping tool. Such attractive and repulsive forces can be created through the application of either a constant voltage or an oscillating voltage.

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